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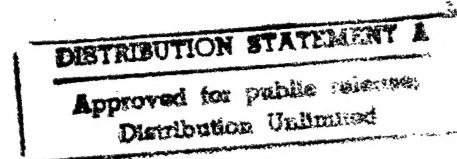
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23 July 1982

# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT

No. 229



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23 July 1982

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TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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GOVERNMENT APPROVAL OF PROPOSED CABLE LINK WITH EUROPE

Kuala Lumpur BUSINESS TIMES in English 29 May 82 p 2

[Text]

CANBERRA, May 28  
THE possibility of a new telephone cable link between southern Europe and western Australia, via the Indian Ocean, was confirmed by the Australian government.

Government approval follows this week's support for the proposal given by the newly-appointed Minister for Communications, Mr Neil Brown.

Mr Brown was addressing the Indian Ocean cable planning conference in Perth, where he said a cable link was needed to offset present demand on satellite communications.

"The Indian Ocean region is totally dependent on the satellite medium for trans oceanic communications," he said, "and the need to diversify using cable as well as satellite circuits has become apparent."

"A number of countries have launched initiatives to fill the cable blank, and Australia welcomes them. The principals of all interested parties must now compare notes and take constructive steps toward the realisation of the plan."

Referring to the lack of communications cables across the Indian Ocean to Europe as a "blank on the map," Mr Brown stressed that action was needed immediately due to the large amounts of money such a project required. The long lead-time involved in planning and constructing major submarine cables was also proof of the need for early action, Mr Brown concluded. — AFP

CSO: 5500/8507

BRIEFS

PRESS COMMISSION HEAD SPEAKS--Chairman of the Press Commission Mr Ataur Rahman Khan on Monday said freedom of press must always be conditioned by sense of social responsibility, reports ENA. Mr Khan was speaking as chief guest at the launching ceremony of a new Bengali newspaper "Dainik Shakti." Mr Abdul Wahab, President of the Dacca Union of Journalists (DUJ) Mr Anwar Zahid, General Secretary of the DUJ Mr Amanullah Kabir and Editor of the new daily Mr Zainal Abedeen also spoke on the occasion. Mr Khan said it is true that freedom of press is an essential element of democracy, but democracy never conceives of responsible journalism, he added. He said certain sections of press in Bangladesh often takes to character assassination and personal canard on political rivals foresaking all norms of professional ethics and objectivity. This must be discouraged, he said. He said after independence the number of newspapers has grown up phenomenally. But the quality of newspapers, he said, did not improve to that proportion. Mr Khan said excuse is often made that quality journalism cannot be expected in under-developed countries like Bangladesh. He said newspaper reflected the intellectual standard of a nation. A country may be economically poor, but it does not necessarily imply that it is intellectually poor as well, he added. Mr Khan said journalists should make conscious efforts at improving the quality of journalism and help newspaper grow as an ideal institution and industry. Mr Anwar Zahid said a section of people is trying to revive the fascist attitude of BKSAL-period. This, he said, may jeopardise the newspaper industry as a whole unless checked right now. He said the role of newspapers and journalists at the moment should be to identify and resist those forces in the interests of promoting the cause of free press in the country. Mr Anwar Zahid said the formation of the Press Commission has fulfilled a long-felt demand of the journalists. He hoped that the Government which formed the Commission would also take measures for implementation of its recommendations. Mr Amanullah Kabir said newspaper owners must try to build newspapers as industry. Otherwise, he said, mere increase of their number will not do any good to the people or the profession. [Text] [Dacca THE BANGLADESH TIMES in English 22 Jun 82 pp 1, 8]

CSO: 5500/7166

SPACE DEPARTMENT APPROVES SATELLITE PLANS

Madras THE HINDU in English 16 Jun 82 p 1

[Text] New Delhi, June 15--The Government of India today gave its approval for three major space projects estimated to cost Rs 393.60 crores--the development of an earth-orbiting remote sensing satellite and two launch vehicles. The projects form part of the "space profile" of the Department of Space for the decade 1980-1990.

The satellite project, expected to be completed by 1985-86 at a cost of Rs. 62.30 crores, envisages the indigenous design and development of an Indian remote sensing satellite (IRS) of 800 kg. This is the first step towards providing a national space system for resources information, for use in agriculture, water management, forestry, hydrology, geology and coastal oceanography.

Detailed studies have been carried out for the configuration of the first IRS. The payload will consist of three linear image scanning sensors (LISS). The design of all the spacecraft elements has been worked out.

**Modular Structural Concept:** The IRS will be introducing for the first time a modular structural concept which can be used with a little modification for future missions as well. A detailed project report bringing out the salient features of all the elements including the data products and ground segments, has been prepared. The IRS will help crop yield forecasting, detection of crop diseases and pests, moisture stress, drought monitoring, fisheries, watershed modeling, etc.

**SLV-3 Technology:** The two launch vehicles approved are an augmented satellite launch vehicle (ASLV) and a polar satellite launch vehicle (PSLV). The ASLV is estimated to cost Rs. 19.73 crores and it will be using the technology and many subsystems of the earlier SLV-3.

The objective of the ASLV project is to achieve by 1983-84 the capability to launch a 150 kg satellite in near the earth orbit. It is an intermediate between the SLV-3 vehicle already developed for launching 50 kg satellites and the polar satellite launch vehicle which can launch 1,000 kg satellites.

Logical Outcome: The PSLV is estimated to cost Rs. 311.57 crores and is expected to attain the capability by 1987-88 for placing a 1,000 kg satellite in the polar-sun-synchronous orbit. The project is the logical outcome of launch vehicle technology development, including the use of established Indian capabilities in solid propellant systems and the acquisition of liquid propulsion technology. The PSLV project will be undertaken by the Vikram Sarabhai Space Centre in Trivandrum and SHAR at Sriharikota.

CSO: 5500/7163

## PAPERS REPORT STATUS OF, PLANS FOR INSAT-1A

## Shorter Lifespan Possible

Bombay THE TIMES OF INDIA in English 17 Jun 82 p 5

[Text]

BANGALORE, June 16.

SEVERAL constraints have arisen in the utility of INSAT-1A, India's first multipurpose national satellite. Besides, the life of the spacecraft may be reduced considerably.

The spacecraft now has on board fuel to sustain its operations for only two-and-a-half years.

Originally, the spacecraft was expected to be in orbit for seven years, but its solar sail has got stuck and cannot be deployed.

INSAT-1A, launched by NASA from Cape Canaveral on April 10, is now available for utilisation on a quasi-operational basis, as against the original expectation that it would become fully operational a month after launching.

The satellite was planned and executed jointly by the department of space, ministry of communications, ministry of information and broadcasting and ministry of tourism and civil aviation. It was built by Ford Aerospace.

After some initial problems with the opening of the communications antenna and solar sail, the spacecraft reached its working position in the geo-stationary orbit. The performance checkout of the spacecraft has been completed.

The spacecraft is in its on-station configuration with the exception of the solar sail. Pending further studies and simulations, efforts on solar sail deployment have been held in abeyance.

The non-deployment of the solar sail will result in additional expenditure of fuel for spacecraft altitude maintenance as well as certain thermal constraints. The latter will primarily affect the S-band TV|radio transponder operations and to some extent the VHRR full-scan operations.

Certain anomalies noticed in the performance and operation of telecom transponder No. 5, data relay transponder, VHRR transmitter and VHRR infra red defectors|channel are under detailed investigation.

## EARTH UNITS READY

The operations planning is being adjusted to accommodate this constraint.

Based on initial telecommunication test reports from Post and Telegraph earth stations, the required improvements in orbit inclination and eccentricity were established and a series of fine manoeuvres were carried out during the last week of May and the first week of June and the prescribed levels of reduced orbit inclination and eccentricity achieved. Concurrent with the further tests of the ground-segment with spacecraft, the final orbit trim-

ming is now underway.

Of 28 fixed P and T earth stations 27 are ready. Three main stations and seven remote area stations have completed test access of the spacecraft. The performance of the earth stations has been generally satisfactory. A number of circuits between main stations, between main and primary and between main and remote area stations are being lined up for test purposes. The plans call for phased introduction of all 28 fixed stations into the INSAT-1A network by the end of this month.

Initially, 1,400 two-way circuits are expected to be lined up by the end of July and made available for telecom traffic. Of these, approximately 550 will terminate at crossbar trunk automatic exchanges, about 250 at strowger trunk automatic exchanges and the remainder at manual exchanges. The majority of the latter will eventually be transferred to the electronic stored programme computer taxa when they are installed.

The first P and T transportable terminal availability is slated for September 1982 and the other two in April 1983.

One on-shore and another off-shore earth station of ONGC are at an advanced stage of completion and are expected to be ready for use next month.

Details on Circuits, Other Matters

Madras THE HINDU in English 19 Jun 82 p 7

[Text] Bangalore, June 18--The 28 fixed earth stations of the P&T will be introduced into the INSAT-1A network in a phased manner by the month end.

Nearly 1,400 two-way circuits are expected to be linked up by the end of next month and made available for telecom traffic during the first year. Of these initial 1,400 circuits, nearly 550 would terminate at Crossbar Trunk Automatic Exchanges (TAXs), nearly 250 at Strowger Trunk Automatic Exchanges (TAX) and the rest at manual exchanges. The majority Strowger TAXs will eventually be transferred to the electronic stored programme computer TAXs when they are installed.

The first P&T transportable terminal availability is slated for September 1982 and the other two for April 1983.

Meteorological Data Processing: The Meteorological Data Utilisation Centre (MDUC) at the Indian Meteorological Department, New Delhi, for receiving, processing, dissemination and utilisation of the INSAT-1 and meteorological data is ready. Data image processing at MDUC has been successfully tested with INSAT-1A. The regular Very High Resolution Radiometer (VHRR) data reception at the Delhi Earth Station (DES) via a receiver will go into operation during late June. Till then an alternative arrangement for regular supply of INSAT-1A data to the MDUC from Master Control Facility (MCF) has been worked out, tested and implemented.

Transportable Terminal Modified: The ISRO transportable terminal has been modified and positioned at Akashvani Bhavan, New Delhi, to provide initial support for two radio networking and one TV networking/broadcast channel.

CSO: 5500/7164

## BRIEFS

CONDITION OF 'APPLE' SATELLITE--Bangalore, June 18 (PTI)--India's first experimental geo-stationary communication satellite "APPLE" completing one year in orbit tomorrow, is expected to have an extended life of one more year. Though crippled with one solar panel undeployed, the 670-kg satellite has fulfilled all "its objectives and is still going strong," Dr U.R. Rao, director of the ISRO satellite centre said. Dr Rao said the extension of life of the drum-shaped APPLE, which was estimated to last one year earlier, was possible because of efficient management of fuel. Dr Rao said the APPLE had helped to conduct various sophisticated experiments on communication. UNI adds: The satellite was working normally and was being operated for about 14 hours a day, Mr R.M. Vasagam, director of APPLE project said. Mr Vasagam said major technical experiments such as time division multiple access (TDMA), spread spectrum multiple access (SSMA) and interconnections of computers have been gone through. The APPLE had also been used for nationwide telecasting. APPLE, forerunner of INSAT was launched by the European space agency's launcher Ariane from Kourou on June 19, 1981 and was positioned at its parking slot at 102 degree east longitude. Mr Vasagam said that a leading newspaper from Madras, "The Hindu" had used the satellite for facsimile printing and a paper mill in Orissa had successfully tried out computer interconnecting and data transfer through APPLE. He said the preparations were on for the satellite communication course involving the Indian Institute of Science by utilising APPLE. The course was expected to commence in July, he added. [Text] [Bombay THE TIMES OF INDIA in English 19 Jun 82 p 92

ELECTRONIC TELEX EXCHANGE--An electronic trunk automatic exchange and an electronic telex exchange technically known as Stored Programme Control Exchanges will be introduced for the first time in Calcutta by the end of this year. According to a Union Government Press Note issued on Tuesday the electronic trunk automatic exchange will have the capacity of 3,000 lines while the electronic telex exchange will have 2,000 lines. The work for installation of these exchanges is underway. These exchanges will considerably improve the STD and telex services, the note added. [Text] [Calcutta THE STATESMAN in English 16 Jun 82 p 9]

PHILIPPINES RADIO LAWS BEING CODIFIED

Manila BULLETIN TODAY in English 3 Jul 82 p 8

[Text]

The government is now codifying all radio laws in the country for the purpose of promulgating a broadcast and telecommunications code. The proposed code will then be submitted to the Batasang Pambansa for proper action.

This was disclosed by Antonio C. Barreiro, deputy commissioner of the national telecommunications commission (NTC), during the recent 32nd annual general meeting of the Institute of Electronics and Communications Engineers of the Philippines (IECEP) at the Manila Garden Hotel.

In that convention,

Barreiro, a former president of the KBP, called on his listeners not to resort to the use of third parties when transacting business with his office. He said that one of the causes of red tape in the government service is the use of third parties by those who transact business with the government.

By dealing directly with the office concern, the public not only save time and assure faster action but also help eliminate red tape, he said.

Barreiro also called on the IECEP for cooperation in order that the government can

serve the needs of the professionals and the industry better.

The convention elected the following new officers and directors of the institute:

Rogelio E. Ramos, president; Dionisio R. Ababat, first vice president; Pedro A. Ybañez, second vice president; Oscar S. Villacorta, third vice president; Milagros S. G. Quintero, secretary; Fortunato Perlas, treasurer; Heraclio L. San Juan, auditor.

Joel Marciano, Cornelio Mendoza, Wilson Morrell, Isagani Naval, Tomas L.P. Rivera, Danilo Sy, and Pedro Torres, directors.

CSO: 5500/5859

BRAZIL

GAINS IN DEVELOPMENT OF COMPUTER MARKET EXAMINED

Sao Paulo O ESTADO DE SAO PAULO in Spanish 20 Jun 82 p 52

[Article by Manuela Rios]

[Text] If the invoice total of U. S. \$1.2 billion billed last year by the Brazilian computer industry brought little monetary profit, it did serve to allow the sector to gain greatly in the improvement of its image, to the extent that it defined its space in the overall industrial sector. An increase in demand estimated at between 15 and 25 percent per year and the existence of an installed park of 10,000 computers make it possible for the sector to expand its prospects of maturing, to increase the funding for research and the development of technology and programs, and to serve consumers better by offering new options.

Some estimate the billing total for this year at U. S. \$2 billion, although 1.5 billion is believed to be a more realistic prediction. In any case, everything will depend on the development of the new enterprises which are entering the field, the survival of many of which is doubtful. It is estimated, for example, that of the 13 enterprises functioning today in the microcomputer sector--the new "stars" of the market, only seven or eight will still be operating within a year, after the natural selection phase which should follow the boom.

In order to achieve this development, the industry can rely on an increase in demand of about 40 percent, a projection which some regard as very modest in view of the increases in excess of 100 percent which some enterprises have seen in their invoicing. And the boom in microcomputers will certainly contribute to giving domestic industry a larger slice of the pie.

Of the U. S. \$1.2 billion invoiced by the sector last year, the terminal industry accounts for 56 percent, but of this, only 27 to 30 percent (about U. S. \$200 million) went to Brazilian computer factories, demonstrating the strong activity of multinational corporations in the large and medium equipment sector. The balance was divided between the service segment (design bureaus, software houses and consultants), accounting for 35 percent, and peripheral activities, accounting for 9 percent.

From the market reserve with which domestic industry was provided in 1977, through the phase of up to 2 central memory megabytes--which made it possible for the mini and microcomputer sectors to flourish--to the recent introduction into the country of personal computers, the picture in this sector has changed greatly.

But the old polemic concerning the national computer model continues, and 5 years later, whether this has really borne fruit is being debated. Did the market reserve effectively make it possible for Brazilian industries to produce computers, or did it only allow an increase in the number of enterprises functioning in the sector?

If the critics regard the national technological capacity to develop products as poor in the hardware (machine) sector--and this when the majority of the contracts for the purchase of technology signed by the five enterprises (COBRA [Brazilian Computers and Systems, Inc], EDISA [Digital Electronics, Inc], LABO, SID and SISCO) selected to serve the special minicomputers market are still in effect, they believe that the country is still at the zero mark in the software sector (the complex of procedures and programs to put the machines into operation). There is indeed a wide variety of applied program packages, but they have generally been developed on the basis of imported, if not simply smuggled, software, using languages which have often been superceded abroad. Thus the critical point of the question arises: the industry has a market reserve, but it seems that domestic technology is still non-existent.

The industries defend themselves, claiming that they are increasing their investments in research and development both in the hardware and software areas, which account for about 10 percent of their invoicing today, and they complain that the government itself has not given them support in this area. The Special Computer Secretariat (SEI) in turn puts forth the counterargument as to the difficulty of limiting imports of software--how can the entry into the country of someone with a tape cassette in his luggage be prevented?--and the proliferation of enterprises with little capacity. In any case, a decree designed to provide incentives for the development of domestic software through exemption from the income tax has already been drafted.

The high cost of establishing industrial facilities and the heavy tax burden they bear--mainly on the import of components--are other reasons given for the limited resources oriented toward the research sector. However, the technicians in the sector themselves admit that it is the consumer who is amortizing these costs. Brazilian computers still often cost up to four times as much as their counterparts produced abroad. And although the users prefer to think that they are paying only for the hardware, many other components are included in the price, in which the cost of the developmental process which the Brazilian computer industry is trying to carry forward plays a large part.

#### Restrictions Hinder Large Firms

In the Brazilian computer market, it is a good thing to be small. In establishing the market reserve for domestic producers of mini and microcomputers

in 1977, the government required producers of large systems to exercise prodigious feats of imagination to survive, among other things because the market reserve measure was not an isolated one. There is for example a ceiling on imports--on so-called peripheral or software machines, established at U. S. \$200 million last year, of which U. S. \$70 million may be used in this sector.

There are other restrictions even in the supposedly free sector for multi-national companies pertaining to large systems. In 1977, for example, a proposal by IBM (which has been producing here for years) involving a medium computer was vetoed. And even today, in order to sell one large computer, a foreign enterprise is required to export three.

With such restrictions, it was natural that the businesses operating in the medium and large systems area would have to content themselves with more limited growth in their businesses. Both Murilo Loureiro, IBM director for foreign business in Brazil, and George Hertz, the marketing director for Burroughs, the firms ranking first and second in sales among the large producers--of which there are 11 in all, established in the country--speak of 1977 as the dividing line. Before that year, growth was occurring at a rate of 20 percent per year. Since then, the rate has dropped to 10 percent.

This does not mean total disaster, however. IBM in Brazil has not made its figures available, but it is an integral part of one of the largest world corporations, which has a sales volume in excess of U. S. \$21 billion and profits of more than 5 billion. Burroughs, for its part, although its invoicing in the country dropped 10 percent in 1981, completed the year with sales totaling U. S. \$110 million. Currently there are between 450 and 500 large or very large systems in the country. In the first category, IBM is the weightiest factor, accounting for 80 percent. In the second, the division of the market is more elastic--IBM accounts for 63 percent. CII-Honeywell-Bull, Facom of Brazil and Digital Equipment are also present, playing a less prominent role. For some years the other six have sold no equipment in Brazil.

Limited by the straitjacket of government restrictions, the producers of large or very large systems are constantly criticizing the market reserve system. After all, they argue, initially the reserve may be a good thing for the national producer. In the medium or long range, however, it is a threat to operations overall, because the limiting of the market prevents the introduction of more advanced technology.

#### Slowdown Affects Minicomputers

Although the total invoiced by the industry has increased significantly, physical sales of minicomputers declined last year, with the placement of about 800 systems as compared to 820 in 1980. It is often said that the computer sector develops well in periods of crisis, because it offers a product which makes it possible to reduce enterprise costs. But the effects of the recession in 1981 somewhat slowed the development of the minicomputer industry, interrupting the excellent results achieved in 1979 and 1980.

As Marco Antonio Filippi, national director of marketing for Labo Electronics, SA, explains, the needs continued to increase but demand was limited by the uncertainty of businessmen, their reluctance to make substantial investments during a period of shrinkage, when after all credit costs were extremely high.

"There was not really any stagnation, but rather reduced acceleration," he adds, stressing however that by the end of the year, recovery, which is continuing at an increasing rate, with considerable business expansion, had begun. In 1982, Filippi expects that the market will absorb a total of 900 to 920 minicomputers, at a minimum price of 8.5 million cruzeiros per unit, in addition to systems expansions (purchase of more peripheral equipment, such as disk units, printers, etc.), representing for Labo, for example, 27 percent of the invoice total. This total, moreover, has already increased this year by more than 100 percent in comparison to the same period last year, far from the 550 percent growth in 1979, but sufficient to give rise to "critical optimism," as Filippi, who is wary of euphoria and an advocate of caution, calls it.

To achieve this increase, Labo also relied on sales of its microcomputer, which it brought out in October of last year. "However, unlike some enterprises, we are being very careful to see that sales of the microcomputer do not interfere with the minicomputer sector. For example we are trying to place the microcomputer as a supplement to the processing capacity our client already has, rather than as a substitute, which it really is not."

#### Caution as to Personal Computers

Within a short time it will be possible to purchase a personal microcomputer at about 50,000 cruzeiros (about U. S. \$295 at today's prices). Obviously, the components will be limited, including a keyboard, which can be adapted to a readout screen and a recording device, and its use will probably be limited to the development of some electronic games.

This prospect offered by some industrial companies drafting plans in this area is important, in view of the price shown today in the magazines for a personal computer--about 500,000 cruzeiros at a minimum, which makes it a very expensive toy. But it should not be expected that a Brazilian housewife will be able shortly to purchase a domestic microcomputer to store her pastry recipes, as many North American women are already doing. It is also unlikely that a child will receive such a machine as a Christmas present to launch him into the computer era.

The personal computer market is still far from a boom in Brazil. There are even those who believe that its introduction into this country was premature and is doomed to failure. Dismac was the first to venture into this market a little less than a year ago, with an offer of three models: a basic machine, including video screen, keyboard and recording equipment; an intermediary model, to which was added a printer with a capacity of 100 characters per second; and a more sophisticated model, including two diskettes for data storage.

This enterprise has already sold about 1500 units, at a price of 460,000 cruzeiros for the basic model, but acknowledges that it is not yet making a profit and that the market, which was limited until a short time ago to a few hundred smuggled units, mainly Apple computers, has barely emerged from the apprenticeship stage. "We are still exploring the market," says Renato Malato, recalling however that the competitors have not yet become a threat: Digital and Phenix are only offering a central unit (keyboard for hookup to any screening system) without any additional equipment.

If Dismac is out in front, this is due solely to its geographic location, since its headquarters are in the Manaus Free Zone, such that it does not need the authorization of the SEI, which only approved some proposals in the personal microcomputer sector a little more than a month ago, on the basis of criteria regarded as very strict. Of the 33 proposals submitted by 28 companies, only four--one submitted by Computec, one from Digibyte (formerly Microdata) and two from Splice--won approval. The use of domestic technology and demonstration of technical, financial and manpower resources for the implementation of the projects were basic conditions.

#### No Haste

Enterprises invited by the SEI itself to submit their bids saw their proposals rejected, as that submitted by Labo was because it did not provide a prototype. "We drafted the proposal speedily, at the request of SEI, establishing a priority which was not ours. Following this rejection, we will cease to be in a hurry to enter this sector. It is not that we are uninterested, but it would require structural changes in the enterprise," Marco Antonio Felippi explains. In his view, it is necessary to proceed with deliberation in the personal microcomputer sector, and an entirely different marketing approach should be developed. After all, this is an impulse purchase, like any other type of consumer goods.

The Polymax proposal was also rejected, but it has now prepared a prototype in order to obtain approval, and plans to launch three models: the hobby version, with a 32 kb memory, with which one can design certain games and "mini-programs" and learn a language, BASIC, at a cost of 45,000 cruzeiros; the home model, with somewhat larger capacity, allowing limited personal accounting programs, at 340,000 cruzeiros; and the personal computer, capable of certain management and calculation procedures. Equipped with a printer, this third model should be offered to the consumer at between 450,000 and 800,000 cruzeiros. Confident of SEI approval, Polymax is already preparing to offer this product on some other South American markets as well, to which it plans to export a large part of its production.

#### Traditional Equipment Still Possible

While a number of enterprises specializing in office machines are seeking to make their products more sophisticated along computer lines, Facit has been making a profit on traditional products. This new majority orientation perhaps explains IBM's silence about the recent aggressive advertising campaign

with which Facit attacked the electric typewriter market--of which it has a tiny 3 percent share--with reduced prices. This investment in advertising, representing about 6 percent of the sales whereas the usual figure is about 2 percent, is only one of the tactics being used by Facit in the hope of winning 35 percent of the manual and electric typewriter market in 1983, and 25 percent of the electronic calculator market.

Today, according to Lars Jarnryd, managing director of Facit, Brazil is the second largest producer of typewriters, with a total of 600,000 units worth U. S. \$150 million in 1962, of which 230,000 units were sold on the domestic market. Where electronic calculators are concerned, Brazil is the third largest world market, producing 350,000 units per year worth U. S. \$80 million for domestic consumption. This leading position, in Jarnryd's opinion, is due to the much criticized Brazilian bureaucracy and the very limited intervention by Minister Helio Beltrao, mainly in the state of Sao Paulo, which alone constitutes the largest market in Latin America.

Facit, however, which is a Swedish firm in the Electrolux group, had only a small portion of this promising market. That factor, linked with a complex of internal problems, required that the company develop a new policy, which is beginning to yield good results. "Our share of the manual typewriter market increased from 15 to 25 percent, our share of the electrical typewriter market from 3 to 35 percent, and our share of calculating machines from 5 to 15 percent. We reduced the management in seven branches from a staff of 430 to 85, not counting the 1,100 factory employees. Sales expenditures declined by 14 percent, with a reduction in the number of middlemen (with 6,000 clients) from 1,000 to 400. And sales have increased by 25 percent overall," Jarnryd points out in commenting on the plans initiated in June of last year and the development up to March.

The enterprise had to attack on various fronts in order to make of itself a success story: it had to eliminate competition between its own branches and the middlemen; reduce sales expenditures by cutting distribution costs; operate with reduced financial expenditures, limiting discounts for the final purchaser; and safeguarding itself against export difficulties because of world overproduction and the 30 percent drop in international prices.

Within this framework, the new policy called for priority for the domestic market, improvement in product quality, increased technical aid and operation at accessible prices. Improvement of the company image and reduction of costs for the sales, administrative and distribution systems completed the strategy.

Product quality, according to Lars Jarnryd, is now a fact, at an index of 96 percent of the international parameters, with a system of permanent technical inspection. In addition, within the framework of the 3,000 parts and 200 machine variants, with imports accounting for 14 percent for electric typewriters and 4 percent for manual typewriters, it was possible, by means of a review of materials and suppliers, to lower costs by 9 percent.

The tactic of improving the company image was also successful: sales increased 600 percent with the announcement that the price of the Facit electric typewriter is half the cost of the IBM model. "This was possible because with the price liberation effected by the CIP [Interministerial Price Council], our competitor increased prices once and we held the line for some months, in addition to the fact that our costs are 20 percent lower," Lars Jarnryd explained.

The major internal alteration involved reducing sales, administrative and distribution costs. The seven branches and technical aid facilities were sold to the middlemen or managers. As they lacked capital, they were given credit for the first order and loans for wage payments.

Other incentives were provided to convert sales promoters into businessmen, with the payment of 6 months' wages. In addition to this, discounts of up to 35 percent on orders for payment within 105 days were established, and for orders accompanied by checks, in other words cash sales--25 percent of the sales come within this category--Facit pays "overnight" compensation plus 1.5 percent. As a result, middlemen have invoiced between 20 million and 100 million cruzeiros per month.

	Brazilian Market						
	Manual Typewriters %		Electric Typewriters %		Electronic Calculators %		
	1981 1982		1981 1982		1981		1982
	Olivetti	75	65	55	50	30	30
IBM		—	—	42	25	—	—
Remington		5	5	—	—	10	5
Sharp		—	—	—	—	35	30
Dismac		—	—	—	—	15	10
Facit		15	25	3	25	5	15
Other		5	5	—	—	5	5

Source: Facit

#### Microcomputer Boom Subsides

Last year, the euphoria created by the boom in the sales of microcomputers on the Brazilian market gave rise to the illusion that this offering made all others obsolete. It is even noteworthy that some minicomputer industries hastily included a microcomputer model in their production lines out of fear of losing customers. If this happened, the cases were few, because just as minicomputers did not force larger ones off the market, it is not true that microcomputers can replace more powerful models.

The whole issue comes down to adapting the system to the processing capacity the consumer needs. Those who need a minicomputer structure and who purchase a microcomputer will have to expand their systems to such an extent that they will put an end to another deception--the belief that a microcomputer costs a microprice. Depending on its construction and the peripheral equipment needed, the microcomputer can in the end cost nearly as much as a minicomputer, in terms of capacity, but also in terms of price range, which runs from the 2 to 4.5 million cruzeiros the basic machinery costs today to something like 8 million cruzeiros.

Perhaps the rapid growth in the microcomputer market suggests the impression that it has invaded the other two sectors, whereas in reality its sales are expanding in another direction, toward the amplification of systems already in operation, small-scale industrial businesses and shops, those in the liberal professions and even domestic use.

Renato Malato, national systems sales manager for Dismac Industrial, SA (an enterprise which produces three commercial microcomputer models in the Manaus Free Zone--the most sophisticated has a four megabyte capacity and is selling at 80 to 100 units per month), estimates that the market is 400 to 500 units per month, apart from the demand which the industry is not in a position to satisfy.

And, unlike some of its competitors--Polymax, Scopus and Prologica being the principal ones--he believes that, as a function of the fact that this demand is very high, it is no longer necessary "to promote" sales. "The microcomputer has become such a widespread item that we do not need to waste more time selling the idea. All the manufacturers need to do is wait for the orders," he says. But Sergio P. Perrenoud, manager of the technical marketing department of Polymax Systems and Peripheral Goods, Ltd., believes that the main goal should still be to educate customers.

#### Duplication

Polymax also has more modest plans for the market volume, estimated at 300 units per month, which does not mean that its expectations are limited. After all, this enterprise has seen growth at least double that of the data sector overall last year. Sales have increased 50 percent, yielding invoices totaling 1.785 billion cruzeiros. A further 50 percent expansion over the same period last year is expected for the first 6 months of 1982, but invoicing had already tripled in the first quarter as compared to the same 3 months in 1981, with a total of 505,180,000 cruzeiros as compared to 173,520,000. For the year as a whole, the estimated invoice total is 5,150,000,000 cruzeiros.

Market expansion led Polymax to plan to double the production capacity of its factory in Rio Grande do Sul, from 50 to 100 units per month--currently it is producing about 60--and to invest in a vertical structure. It will shortly begin producing the printer it has heretofore been importing, in addition to that with a slower speed for use with domestic microcomputers which it is already turning out. A microcomputer with a 10 megabyte capacity and a word

processor are other products made by the enterprise, which is preparing to offer a "multiuser" machine with a capacity for eight data entry units, and a model in the personal microcomputer sector.

Sergio Perrenoud warns however that expansion must be very carefully planned, because the industrial companies in this sector are not yet in a position to work with a macrostructure: any company unable to pay its staff if it has one month without production it can bill will be unable to grow very rapidly.

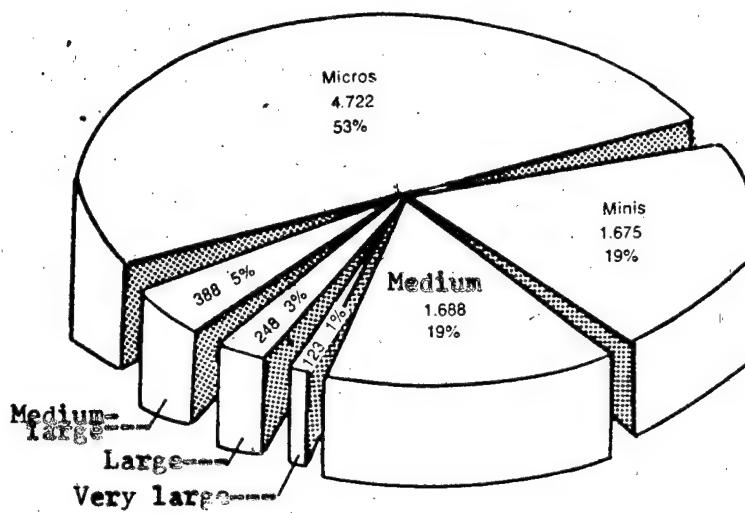
On the other hand, the Polymax manager does not fear competition. The expansion of demand makes it possible for all to find a place in the market, even the smuggled goods and the minicomputer industries venturing into the sector, whose competition he regards as healthy. But he warns that in one year, the rising level of consumer information will be such that a natural selection will be made among the suppliers, resulting in the survival of only a few more than half of the enterprises functioning in the microcomputer sector today. "Obviously, the firm with the most experience will have the most solid position on the market."

#### The Market

Labo is another of the firms certain of its position in the microcomputer sector, thanks to its careful marketing: a large part of its sales involves the expansion of the processing capacity of its minicomputer clients, also representing a significant consumer sector for other microcomputer producers. The decentralization of management and the better man-machine identification, apart from the vast applied program libraries offered, have been the other sales features offered with commercial microcomputers. But there is also another potential market which cannot be overlooked--replacement of the some 20,000 accounting machines and 20,000 electromechanical billing machines currently in use in the offices in this country.

Moreover, the old polemic argument between Dismac--which invoiced systems worth about 280 million cruzeiros in 1981--and the other manufacturers concerning the incentives provided to Dismac thanks to its location in the Manaus Free Zone now appear to be in the gradual process of being overcome. And Dismac itself, which only got into the systems sector 2 years ago, explains why. If on the one hand it does not have to obtain approval from the SEI for its projects, being subject solely to the norms of the SUFRAMA [Superintendency of the Manaus Free Trade Zone], which provide incentives exempting it from the income tax and allowing the import of finished products, on the other hand, its transportation costs and problems in contracting for skilled manpower--"nonexistent in the north"--have in the end made its products as expensive as those of its competitors in the south, who are subject to limitations on their imports of components and must pay taxes on them.

Machines Installed in the 1970-1980  
Period (by category)



z Source: SEI

5157

CSO: 5500/2276

JAMAICA

BRIEFS

JAMINTEL DEVELOPMENT PROGRAM--KINGSTON, Wed., (Cana)--THE State-owned international telecommunications firm, Jamintel, is spending \$70 million on a six-year development programme ending in 1987, Jamaica's Public Utilities Minister, Pearnel Charles, has said. Jamaica has majority shares in Jamintel (Jamaica International Telecommunications), which was formerly owned by the British Cable and Wireless. The Minister said the programme called for the expansion and modification of Jamintel's satellite station, its international telephone exchange and telegraph switching systems. A contract for a new telephone exchange for the company, with 1,200 circuits, as well as for an addition to the Jamintel centre in Kingston, would be signed within the next fortnight, the Minister said. [Text] [Port-of-Spain TRINIDAD GUARDIAN in English 17 Jun 82 p 5]

CSO: 5500/7550

MINISTRY OF COMMUNICATIONS RENEWING, EXPANDING FACILITIES

Kabul KABUL NEW TIMES in English 16, 17, 19 Jun 82

[Part II, 16 Jun 82 p 2]

[Text] For the purpose of launching certain other projects provision of technical equipments was also included in the 1360 programmes and performances of development activities. Apart from this, installation of wireless stations (CPBV) in some provinces for the purpose of maintaining telephone links is among the activities accomplished in 1360.

B. In the section of telecommunication Services:

In addition to the maintenance and supervision and activation of stations and provision of grounds for the offering of better telephone, telegraph and telex services, the telecommunication services have performed the following tasks, for:

1. For a number of subscribers telex lines for seven units have been extended and the telex machines were installed.

2. Seventeen slotting telephone booths were installed in several parts of the city for public use.

3. The telephone link outside the 10th region of the capital took place in 1360.

4. The telegraphic link

outside the seventh region of the capital took place in the course of 1360 (1981-82).

5. Telegraphs were installed in the centres of four terminals and, making use of wireless stations telegraphic activities, continued through teleprinters.

6. Changes in names were introduced in 400 telephone lines.

7. As many as 489 new telephone lines were extended for individual or state users of telephone.

8. As many as 223 telephone units were moved from their places to new addresses on the request of state organisations and individuals.

9. A total of 150 secretariate telephones were installed in the state organisations offices.

10. A total 136 local battery and central battery switchboards were repaired and reactivated.

11. Five PBX and central battery stations in large sizes were installed in the state organisation offices.

Considering the volume of telephone, telegraph and telex communications inside and outside the coun-

try, the revenues due to be collected from this section only amounts to Afs 178,977,539.

#### C. Section of technical services, radio television:

The technical section of Radio-television, which has the responsibility of disseminating the programmes of radio and television and maintaining continuous connections through telephone and wireless telegraph with the internal and international circuits from the technical point of view, has performed the following activities in the year 1360 (1981-82):

1—Participation in the task of preliminary survey of the 1,000 kilowatt medium wave station of the radio with the cooperation of experts from the Soviet Union.

2. Technical cooperation in the land station project

of artificial satellite, the Shamshad, the installation of which was accomplished

3. To strengthen the bro- by the Soviet experts. adcasts of Radio Afghanistan in the Moqor district and the section of local broadcasts, a unit of 7.5 kilowatt transmitter of the type PB7 for the medium wave was installed in that district.

4. Four wireless stations of 300 watts each equipped with telegraph equipments and radio terminal were installed in the Herat, Kandahar and Kunduz provinces. With the installation of these stations, communications through teleprinter as well as direct telephone connections of the subscribers of telephone were made possible in a better way.

5. Twenty units of 30-watt wireless stations were installed in the related districts of the Kabul, Logar, Kapisa, Baghlan, Kunduz, Samangan, Nimroz, Herat, Ghor and Badghis provinces and the Moqor district

6. A great number of television sets were repaired in the television workshop. This includes 1,175 television sets which were serviced and repaired without any charge as they were guaranteed and repairing of many other television sets which brought a revenue of Afs 589,768.

#### D. Postal services section:

With the establishment of postal centres in the cities and districts and by maintaining relations and postal exchanges with the foreign countries, the ministry has performed the following tasks:

[Part III, 17 Jun 82 p 2]

#### [Text]

1. Distribution of 238,386 foreign and local items of correspondence.

2. Sending of 1,324,985 items of correspondence and letters outside the country and inside the country.

3. Distribution of 55,079 in-coming in and outgoing parcels.

4. Transmission of 587 transit bags from Afghanistan to the neighbouring countries, of a total weight of 13,118 kgs.

5. Issuance of 14 postal stamps on various occasions.

6. Printing of 10 kinds of illustrated envelopes and five kinds of illustrated postcards.

During the current year, the department of posts of the ministry initiated short

term courses of six weeks to train its related personnel in which hundreds of postal officials were trained.

The sum total of income from the postal services in the current year amounts to Afs 55,053,838.

Measures have been taken to obtaining the share of Afghanistan due to the accomplishment of postal and telecommunication services through the international liaison department of the ministry and so far 930,953 dollars have been obtained.

Reciprocally, for the accomplishment of postal and telecommunication services outside the country, Afghanistan has paid to the international communication organisations the equival-

ent of \$26,198 dollars in the current year.

The income of the ministry in 1360 (1981-82) was approximately Afs 290,000,000 due, out of which Afs. 271,049,297 have been obtained and included in the general state revenue. This figure shows an increase of Afs 1,344,569 over the income of 1359 (1980-81), which was Afs 269,704,728.

Other activities:

1. It is planned to build the Mazar-Hairatan channel project. The plans and blueprints are ready.

2. The automatic telephone project for Khairkhana Mena is planned to be completed by the end of the current year.

3. The automatic telephone project for Shahri Naw and Karte Char, including its network, is planned to be restarted.

4. The automatic telephone project for the micro-region is planned to complete by the end of the current year.

5. In connection with the micro-wave project for Kabul-Mazar, it is planned that steps will be taken in the 1361 concerning the survey of roads and extension of transmission lines of electricity. Also the construction work of required buildings in Kabul and Puli Khumri will continue.

6. It is planned that a portion of the project for ministry building will be completed.

7. The Mazar-Sheberghan-Maimana-Taluqan, Faizabad channel is under consideration and the construction

work of the channel buildings in the Jauzjan, and Badakhshan provinces and the Andkhoi district will continue and, in case of suitable working conditions, the work of installation of the channel stations in the cities of Maimana, Andkhoi Sheberghan, Faizabad, Taluqan, Kunduz and Puli Khumri will begin.

8. Postal development project.

It is planned that, in 1361 (1982-83), a portion of the construction work of post offices in the Kabul, Balkh and Herat provinces will be carried out.

9. The channel system project of Herat, Kushk and Torghondi:

The work of the extension of channel lines between Herat, Kushk and Torghondi is planned to commence for a distance of 130 kms, provided the means and equipments arrived from the Soviet Union.

10. The project of Shamshad station—the remaining part of works of this station is planned to be completed and necessary measures will be taken for the construction of administrative building of the project.

11. Small automatic stations: It is planned that, by making use of the anticipated funds, steps will be taken in connection with the construction of automatic telephone station of Pule Khumri and also the maintenance work of the automatic stations in the related provinces. Making use of the foreign currency funds, the remaining part

of tools and equipments will be provided.

12. The project of the CP-B7 medium wave station in Farah, Moqor, Bamian, Qalat, Lashkargah, Zaranj and Tirinkot: It is planned that radio stations will be installed in the provinces and districts.

13. Television repair workshop: The means, equipments and tools for this workshop are planned to be provided soon.

14. The project of a 1,000 kw medium wave station: Steps will be taken to make use of the anticipated funds to purchase the land required for the construction of technical and administrative building in Pule Charkhi. The wages of the technical work of the project will be paid from the foreign currency funds.

15. The project of the high frequency medium wave station at Kabul: It is planned that by making use of the foreign currency funds the work on modification of the required building in Pule Charkhi will be fulfilled. The wages of technical work of the project will be paid and the necessary tools and equipments will be provided.

16. The training centre of communications: The required plans of the centre are planned to be provided.

The Department of Posts: To meet the needs of our compatriots the postal department of the ministry plans to accomplish the following tasks:

[Text]

1. To improve the task of distribution, exchange and safe transmission of the different kinds of postal correspondences, the postal department of the ministry plans to create a well-equipped transport system within the framework of its organisation in 1361 (1982-83).

Several groups were sent to the provinces to fulfill their assigned tasks in as a short period as possible and the shortage of technical personnel was planned to be compensated and completed in a period of one year or a little over a year.

CTR stations in the capital and provinces:

In the capital and the provinces where CTR stations are not installed, such stations will be installed and the work will continue in the places where it has already begun.

Secretariat units will be installed in various organisations upon their request. The new units will arrive soon.

The repair of switchboards and telephone units which have stopped working due to the excessive use.

This includes fixing and replacing new spare parts instead of the faulty ones.

Repair and extension of new telex lines on the basis of the requests made by the present subscribers and consideration of requests of new subscribers.

Installation of public slotting telephone booths in different parts of the Kabul city and in the provinces where they have automatic telephone stations.

Preservation and maintenance of public slotting telephones, telex machines and their timely repair.

In the field of Radio Television:

1. The plan for installation of stations in the Zabul and Helmand provinces have already started and the work on them will soon be completed.

2. The plan for installation of two more stations in the provinces of Nimroz and Farah will follow the completion of the installation work of the earlier mentioned provinces.

3. The survey work of the site for installation of radio stations in the provinces of Ghazni, Khost, Farayab will soon be started by

the technical personnel.

4. The survey work and the plan for installation of three supporting stations in the provinces of Kapisa, Logar, and Maidan is also under consideration and their preparatory work will possibly begin soon.

5. The charting of the plan of a transmitting television station of Secam system is under consideration and its preparatory work will soon begin.

6. Installation and activation of three transport-vehicles in Kabul, provided the equipments arrived from the Soviet Union.

In the field of television repair workshop:

It is planned that, in the current year, beside the central workshop, another workshop will also be established.

In the field of wireless communications:

The plan of installation and activation of eighty wireless stations in the provinces is under consideration and in addition to that the work of repairing all the radio communications stations, propagation stations and generators are also planned.

UNITED ARAB EMIRATES

RADIO, TV PROJECTS REPORTED

GF101241 Dubayy KAHLEEJ TIMES in English 10 Jul 82 p 3

[Excerpt] The Ministry of Information and Culture is implementing projects to set up radio stations in al-Shariqah and Fujairah and a television center at Ras al Khaimah.

The projects are part of the ministry's development programme being executed at a cost of DH 322 million. Of the total, projects costing DH 262 million, are being implemented by the Ministry of Information directly and projects worth DH 60 million have been assigned to the Ministry of Works.

The Ministry of Information has allocated DH 50 million for its development schemes during the current year.

The proposed broadcasting stations at al-Shariqah and Fujairah will cost DH 13 million while the new television center at Ras al Khaimah will be set up at a cost of DH 26 million.

A medium-wave transmitting station at Sa'diyat will also be set up at a cost of DH 14.5 million.

Another project for modernising the development laboratory in Abu Dhabi which will cost DH 4 million.

Other development projects of the ministry include extension of Abu Dhabi TV building costing DH 25 million and a transmission centre of the news agency at al Maqta' costing DH 7 million.

According to the report issued by the Department of Annual Programmes and Follow-up at the Ministry of Planning, among the projects executed by the Ministry of Information directly are development of radio transmission rooms and studios costing DH 10 million, film production unit costing DH 20 million, furnishing of al-Shariqah Cultural Centre laboratory costing DH 12 million, Abu Dhabi TV Channel II scheme costing DH 14 million, building of video tapes control department costing DH 5 million, development of outdoor transmission vehicle, costing DH 2 million, and installation of phone sets for the outdoor transmission vehicles costing DH 2.5 million dirhams.

Besides these projects, the Ministry of Public Works and Housing is executing a number of projects for the Ministry of Information at a cost of DH 60 million.

These included construction of buildings for six cultural centres at Dubai, Ras al Khaimah, Bid'zayed, Umm al Qaiwain and Fujairah, costing DH 40 million and building project for the local news agency costing DH 3.3 million.

CSO: 5500/4729

ANGOLA

BRIEFS

LUBANGO-LUANDA AUTOMATIC COMMUNICATIONS--The National Telecommunications Firm (ENATEL) has announced that automatic telephone service has recently been put into operation between Luanda and Lubango, capital of Huila Province. To make a telephone call, people calling from Luanda should dial 0069 and then the desired number; those who want to contact the country's capital from Lubango must dial 02 before dialing the number of the desired party. Not having any way to differentiate between local and long-distance calls, ENATEL is telling its subscribers that, if they want that information, they must make the call through the service operator of the city telephone exchange involved. It will be remembered that the country's capital already has automatic connections with the provinces of Cabinda, Huambo and Benguela, and additional connections are planned with other provinces with the aim of installing a modern and efficient system throughout the country. [Text] [Luanda JORNAL DE ANGOLA in Portuguese 17 Jun 82 p 2] 8568

AUTOMATIC EXCHANGE--Uige--An automatic telephone exchange, combining the microwave and cross-country systems, is being installed in this city by the Portuguese firm Teixeira Duarte, according to information released to ANGOP [ANGOLAN NEWS AGENCY] by Garcia Vu, department head of the National Telecommunications Firm (ENATEL). This facility will provide internal and external connection with Uige Province. According to clarifications from that provincial official, the assembly work, which was started last year, is being assured by 10 Portuguese cooperants. Garcia Vu also said that of 11 CTT [Posts, Telegraph and Telephone] stations set up in the province, only 5 are presently operating with the sale of stamps, the receipt and delivery of mail, parcel post shipments, and the sending and receiving of telegraph messages. [Text] [Luanda JORNAL DE ANGOLA in Portuguese 19 Jun 82 p 4] 8568

CSO: 5500/5843

ZIMBABWE

BRIEFS

SATELLITE PHONE LINK--Zimbabwe could have an earth satellite station in operation by the mid-80s, the Deputy Minister of Information, Posts and Telecommunications, Dr Naomi Nhlawatiwa said yesterday. She was opening a five-day Southern African sub-regional seminar organised by the International Telecommunications Satellite Organisation (Intelsat) in Harare. She said: "Although Zimbabwe does not yet have an earth satellite there is a pressing need in this country to make provisions for our own earth station to overcome our present dependence on South Africa for communication links with the rest of the world." Dr Nhlawatiwa said: "Subject to reaching satisfactory financial arrangements it is hoped Zimbabwe will have an earth satellite station in operation by the mid-80s." Plans were also underway to build an international "gateway telephone exchange at Gweru scheduled for completion in 1984. The deputy minister said: "The completion of these two projects will make it possible for Zimbabwean subscribers to dial directly to most parts of the world." [Text] [Harare THE HERALD in English 29 Jun 82 p 1]

CSO: 5500/5860

FRANCE

NATIONAL ASSEMBLY ADOPTS PROVISIONS OF AUDIOVISUAL LAW

More Export Desired

Paris LE MONDE in French 9-10 May 82 p 4

[Article by Laurent Zecchini: "New Company To Market TV Programs in France and Abroad"]

[Text] On Friday 7 May, the National Assembly continued its debate on the articles of the audiovisual communications bill.

Marketing of Audiovisual Programs

Article 56 provides for the creation of a new company to market audiovisual programs. This company will also contribute to the cultural effort abroad and, according to the government's text, "It can participate in joint-production agreements."

Mr Marette (RPR [Rally for the Republic], Paris) expressed satisfaction that the company would have no monopoly and that the programming companies (TF 1, Antenne 2 and FR 3) can continue negotiating the sale of their products abroad. Speaking of it as a "new bureaucratic company," he felt it was more urgent to start making films and programs that are of more interest to foreign publics. Mr Toubon (RPR, Paris) agreed that, to date, French TV has not succeeded in selling enough of its programs abroad. An organization such as this company, he felt, could make for "a more sensible policy," but "it would be waylaid by ineffectiveness owing to its cumbersomeness and its remoteness from the creative ambit." The government, he asserted, has chosen not to choose, since the existing broadcast services and the new organization "will divide up the work" (of marketing).

Mr Hage (PCF [French Communist Party], Nord) attached importance to the fact that the company, while benefiting from royalties, will be financing joint productions with public funds. This, he said, "brings us right back to an economy of the marketplace." Mr Madelin (UDF [French Democratic Union], Ille-et-Vilaine) held that cultural promotion is the province of the Ministry of External Relations. Furthermore, "The users should not be made to finance broadcasts aimed abroad." Lastly, "The joint producers should be the programmers." The new company, he asserted, "will bring constant conflicts" (with the program companies).

Mr Fillioud, minister of communication, stated that the aim of the government is to ensure that French audiovisual production "is exported more than it has been heretofore." "Lightly structured as it is," the company will bring in money, which will be reinvested and will enable the development of creativeness." In any case, "A single authority is needed." Mr Marette pointed out that the sales of programs depend in particular upon showings of participation, which are difficult for a state organization. Speaking of the current system, Mr Madelin pointed out that in the United States, French productions are immediately labeled "state television," "which is not exactly an asset."

Mr Schreiner (PS [Socialist Party], Yvelines), rapporteur of the special committee, recalled that the activity of the new company will parallel that of the marketing services of the program companies, after which the Assembly voted down two amendments by the RPR and UDF groups that would have eliminated the article. It then adopted an amendment by the government stipulating that the company will market "abroad the audiovisual works and documentaries with respect to which the companies and public establishments provided for under Title III<sup>(1)</sup> shall cede to it the royalties under the articles and conditions of their charters." The deputies then threw out an amendment introduced by the UDF group that would have prohibited the new company from entering into any joint production agreements.

Mr Fillioud next introduced an amendment stipulating that the company can also participate in "marketing agreements in France and abroad." Mr d'Aubert (UDF, Mayenne) objected that this amendment "changes completely the business orientation" of this company. He asserted that in the movie industry "that conveys nothing: Is the company going to become a distributor or an operator? Is it going to buy up movie houses that are in trouble?" In his view, what is being sought, in the guise of an amendment, is "to nationalize the distributional and operational activities of the film industry." Mr Madelin added that the independent enterprises will be hard put to cope with competition from an enterprise in the public sector. He proposed, by way of an amendment, to specify that this marketing provision will not concern cinematic works. The rapporteur acknowledged that "The problem is real."

Mr Fillioud pointed out that it is not a question of distribution but rather one of marketing. Mr Marcus (RPR, Paris) was not convinced: "Television will annihilate the movies instead of being their vehicle," he asserted. The government's

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(1) This includes all of the companies comprising the public radio and television broadcasting service: The Public Radio Broadcast Establishment (formerly the TDF), National Radio Broadcast Company (Radio-France), National Program Companies (TF 1 and Antenne 2) National Company for Regional Programming (FR 3), National Radio and Television Company for Overseas Services, National Productions Company (former SFP), INCA [National Audiovisual Communications Institute] (former INA), Regional Radio Broadcast Companies, Regional Television Broadcast Companies, National Company for Radio Broadcasts Abroad (RFI [Radio-France Internationale]).

amendment was adopted. Mr Toubon denounced it as "a masked nationalization" of the distribution sector. Article 56, thus modified, was passed by a vote of 280 to 161, the communist group having abstained.

#### SOFIRAD

Article 57, as drafted by the Commission, provides that the capital of the new company "cannot be held by other than the state, SOFIRAD [Radio Broadcast Financing Company], and the national companies and public establishments concerned under Title III." It stipulates that the shares are registered securities. (The government bill would therefore have the effect of compelling SOFIRAD to participate in the capitalization. As the rapporteur pointed out, this obligation cannot be imposed on a company organized under private law, like SOFIRAD.)

For the first time--Mr Toubon said--SOFIRAD is being mentioned in the wording of a law. "'Legalizing' it in this way," he added, "amounts to giving the public sector a determinative role in audiovisual system." Mr Marcus argued that the state has heretofore exercised a "de facto control, not a legal one, over SOFIRAD, adding: "This will pose problems in the realm of international law in countries where peripheral stations are installed that SOFIRAD controls." Mr d'Aubert supported this view, saying, "If SOFIRAD has been able to conclude agreements with the Moroccan, African and Brazilian television networks, it is precisely because it did not bear the label of a state-run company." "Do you think," he added, "the Federal Communications Commission in the United States will agree to allow American cables to be used for transmissions by a state-owned company?"

Acknowledging that the juridical arguments thus advanced "are not without merit," the minister of communication proposed a sub-amendment--orally--designed to replace the reference to SOFIRAD with a reference to "the companies organized under private law in which the state holds a majority ownership." Mr d'Aubert expressed his concern: Will this new wording not create new claimants to rights, such as the Havas Agency? The wording of Article 57 as proposed by the Commission and as sub-amended by the government was then adopted.

#### Funding

Article 58, dealing with the composition of the board of directors of the new company, was adopted, after which the Assembly examined Article 59. This article stipulates that the organizations created by Title III are to be funded "by specific resources to be authorized, to the extent needed, by the budget appropriation law." In addition, each organization "will have the use of the revenues of all kinds generated by its activities, in particular by the services it renders to government administrations."

The opposition assailed the cost of the audiovisual reform. Mr Marcus underscored that the president of the Republic has committed himself to ensuring there will be no increase in state revenues unless new services are created. This will require, he added, bringing publicity to bear, and one can then expect the opening of an offensive against the regional press. "What we know,"

said Mr Marette, pressing the point, "is that this will all be paid for by revenues from tax levies and from advertising. But what we don't know is how much and how. All we know is that there will be a vast hole!" He added: "Just in administrators, members of the high authority, assistants, inspectors, presidents, and managements of national companies, alone, we are talking in terms of some 1,300 persons who will be installed in offices, will be having expense accounts..." Mr Madelin referred to "2.5 billion francs as the low estimate, but more likely 4.5 to 5 billion francs."

Mr Toubon argued for the RPR that funding should be limited to revenues from levies and commercial advertising on the channels where it is specifically authorized. Mr d'Aubert pointed out that Mr Jerome Clement, technical adviser on the staff of the prime minister, has announced the institution of a tax on video tape recorders. In the view of Mr Hage (PCF), what needs to be addressed above all is "the mess and the bureaucracy that is to be generated by the splitting up of the ORTF [Office of French Broadcasting and Television]"

Mr Madelin argued for an amendment that would eliminate Article 59. "To eliminate funding of the public service is to eliminate the public service itself," Mr Fillioud pointed out. Coming from the opposition, he added, it is "a clear and outright admission of fact!" The minister of communication took exception to the "fantastical" figures that had been put forth and asserted that 1 additional hour of regional television per day will cost 220 million francs. The amendment to eliminate the article was voted down. Mr Toubon gave a rundown of figures: The regional television companies, he stated, will cost 2.8 billion francs. In all, close to 3 billion francs will have to be found, and, in 1983, "the cost of the public service will come to 9.3 billion francs. If you maintain the present ceiling on advertising, tax revenues will have to be increased by 50 percent; if you increase tax revenues, you will have to increase advertising funding by 120 percent."

Currently, Mr d'Aubert argued, "35 minutes of regional television cost 700 million francs; How can 1 additional hour cost only 220 million francs?"

Article 59 was adopted, and continuation of the debate was set for Monday morning 10 May.

TV Independent of Government

Paris LE MONDE in French 18 May 82 p 8

[Article by Laurent Zecchini: "The Constraints of Freedom"]

[Excerpts] "Audiovisual communication is free." It is inscribed on the pediment of the law. How, then, can there be any doubt of it...? "Too free," say the communist deputies to justify their abstention. It is a "law of freedom," affirmed Mr Estier (PS [Socialist Party]). "It is worse than the previous one," asserted Mr Madelin (UDF [French Democratic Union]). "It gives

the Right an opportunity to take over radio and television "to mobilize them against change," responded Mr Hage (PCF) [French Communist Party]). Who is going to vote for it? "Those who believe in freedom and in change," opined Mr Fillioud. "Farewell to freedom!" concluded, tragically, Mr Toubon (RPR [Rally for the Republic]). Quiveringly, at the opening of the debate on 26 April, the minister of communication had voiced a "Welcome to freedom!"

Dawn or dusk? Antoine de Saint-Exupery once said it is the reasonable constraints that give form to freedom. This is precisely the philosophy of the bill. Free, in that it replaces a situation of complete dependence. But not altogether free, in that too many of its provisions "organize" that freedom. The audiovisual communications law accords new "niches" of freedom. Strictly limited ones. But just what freedom is it that is being sought? The one advocated by the UDF is seductive, but others see in it too many private and political interests that would well up behind it. That of the communists is too chill and vague: For them, the bill is too close to the law of 1974 and at the same time too favorable to the opposition. The freedom of this one, Mr Dumas (PS) pointed out, "is a road lined with the corpses of the weak annihilated by the strong." The former freedom, recalled Mr Lang, minister of culture, was that exercised by three large private groups to monopolize the entire film industry.

Before, the forbidden was the rule. Now, the freedom to communicate will be "authorized." Bit by bit. Private local radio stations will exist. Without advertising. Freedom of radio and television personnel to strike? It is total. Subject to being tapped to provide the needed "minimum service." Are the journalists of the audiovisual establishment truly journalists like the others?

Now, there will henceforth be "neither purges nor deportations." Television will be independent of the government. The high authority will see to this. But have not the winds of "change" already swept over television? All in all, it is Mr Schreiner (PS), the Commission's rapporteur, who has best put it: "The high authority will be what the men and women appointed to it will make of it." Moreover, the applicational decrees will strongly clarify the law.

What is more, already the importance of the vote taken in the National Assembly on Saturday appears faded against the background. What has emerged in its place is that of the attitude of the communist group: For the first time, on a reform test issue, it has broken majority discipline.

Mr Fillioud's bill is an undisputable "advance" toward freedom. But what is there to say? From the debate, through the somewhat forced expressions of joy and of despair voiced and worn by the ones and the others, the audiovisual freedom that emerges has a queer flavor.

On Saturday 15 May the National Assembly continued its debate on the articles of the audiovisual communications bill.

#### Journalists Like the Others

Article 83 extends to journalists working in one or several audiovisual communications enterprises the provisions of the labor code that have heretofore been applicable to their written-press counterparts. This extension concerns the definition of the professional journalist, the terms and conditions of termination of their employment contracts and in particular the "conscience clause," and the guidelines governing terms and conditions of remuneration and vacations.

In reply to a question by Mr Toubon (RPR, Paris), Mr Fillioud, minister of communication, stated that the officials of the broadcast services had just reconsidered their position and that "political programs would be broadcast over Antenne 2 and TF 1." Mr Schreiner (PS, Yvelines), rapporteur of the special commission, pointed out that the journalists of the private local radio stations should also have the benefit of this by-law.

#### Levies and Penalties

The Assembly adopted Article 83, then Articles 84 (obligation to declare sales of television receivers) and 85 (auditing of the accounts of television receiver vendors to ensure payment of the tax). Mr Fillioud indicated that the government considered levying a fractional tax on the second television receiver possessed by a household. This proposal, he added, was discarded, "for the time being," because the yield from this measure would be "relatively small" and would require control measures difficult to put in place. The deputies next adopted Articles 87 (protection, through the institution of a system of authorizations, of audiovisual communications enterprises against the "pirating" of original works or documents broadcast via their programs) and 88. The latter article provides for fines ranging from 500 to 50,000 francs for infractions of the provisions of Articles 84 and 85.

Article 89 stipulates a fine ranging from 4,000 to 500,000 francs in case of violation of the provisions of Articles 7 (government authorizations concerning the use of radio frequencies) and 9 bis (system of declaration and authorization applying to access to broadcast facilities by way of microwave facilities). Repetition of a violation or disturbance to the broadcasts of a public service will subject the offender to penalties that may range up to imprisonment for a maximum duration of 3 months. In addition, the court may order the confiscation of the installations and equipment involved.

## High Authority and National Advisory Board

Article 90 provides that the initial high authority shall consist of three members appointed for 3 years, three members appointed for 6 years and three members appointed for 9 years. The president of the Republic, the speaker of the Assembly and the president of the Senate will each appoint one member in each of the three groups. The Assembly passed an amendment by the government stipulating that the members of the initial high authority shall be appointed "within 30 days from the date of promulgation of the present law."

(Editor's note: This amendment responds--for all practical purposes--to a desire to compel the president of the Senate to act without too great a delay... as regards appointing three members of the high authority.)

The Assembly next passed an amendment by the government providing that, temporarily and until 30 June 1983 at the latest, the National Audiovisual Communications Advisory Board may meet and deliberate officially as soon as at least 49 of the 56 members that are to compose it have been appointed. (Since the time required for the putting in place of the regional and territorial committees may preclude the rapid appointment of their seven delegates to the National Advisory Board, this provision is intended to avoid delaying the start of the latter's operation.)

### Mr Fillioud: 'Neither Purges Nor Deportations'

The Assembly adopted an additional article proposed by the Commission which specifies: "Personnel whose transfer among the organizations provided for in Title III of the present law is necessary retain all rights under their employment contract and the legislation in effect." Mr Fillioud stated in this regard: "Contrary to what occurred when the 1974 law went into effect, the entering into effect of the present law will entail neither layoffs, nor purges nor 'deportations'. In 1974 and 1975, 1,641 persons were laid off or 'deported'. Nothing of this nature will happen this time. The working conditions and job security of the personnel will be guaranteed by a single collective labor agreement. The mobility of the personnel will also be assured. No one will be compelled to go work elsewhere, but everyone will have the option of working elsewhere should he or she desire it."

### Freedom or Wardship?

During explanations pertaining to the vote, Mr Estier (PS, Paris), chairman of the special commission, said, among other things: "This law of freedom puts an end to the decades of direct guardianship exercised by the government over radio and television and will enable all those who work in the audiovisual field to exercise their profession sheltered from all pressures."

Mr Madelin had a different view: "We have been satisfied," he said, "to simply replace the term 'monopoly' with that of 'public service,' and that of 'derogation' with that of 'authorization.'" The law, he asserted, is worse than the

previous ones, "because it is based on an erroneous legal concept that attributes to the state the ownership of the radio frequency spectrum, which in reality belongs to all the citizens, and because it multiplies the bureaucracy and its guardianships. It is better in some few respects, particularly that of the local radio stations."

Mr Toubon asserted that "Tomorrow, just as today, audiovisual communication will be dominated by a tentacular sector with all powers at its disposal." "At the conclusion of this debate," he thundered, "seeing the fortress you have erected, I must regretfully say to you: 'Farewell to freedom.'"

Mr Dumas (PS, Dordogne) pointed out that only one person had advocated retention of the law of 1974: "Mr Giscard d'Estaing, in his platform for a second term as president..." Turning to Mr Madelin, he added: "Your conception of freedom is that of the 19th century; it is a road strewn with the corpses of the weak annihilated by the strong, of the moral by the wily." "The law," he asserted, "also opens up the private sector, with all that this involves by way of caution but also by way of boldness."

"Our concern remains," asserted Mr Hage. In his view, the philosophy of the bill is too close to that of the law of 1974. He added: "Your bill cannot impart to the public service the force, the consistency, the flexibility and the dynamism it needs. You are giving to the Right, that is, to the private interests, the opportunity to take over the radio and television establishment for partisan purposes, to mobilize it against change." Mr Hage held that the "error" committed by Mr Fillioud "mortgages too deeply the future of the nation." Hence, the communist group would abstain.

Lastly, Mr Fillioud remarked: "We have affirmed our intent to let the tide of freedom have its way. Within rules and regulations, of course: Were we to leave things up to the initiative of each individual, the most powerful would be the vanquishers, [as published] added: "Who is going to vote for this law? Those who believe in freedom and change."

By a vote of 281 to 162 out of a total of 486 voters and 443 votes cast, the audiovisual communications bill as a whole was adopted at the first reading.

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DGT OFFICIAL SAYS TERMINALS TO INCREASE TO 600,000 BY 1985

Paris ZERO UN INFORMATIQUE HEBDO in French 26 Apr 82 p 11

[Article by Eric Sorlet: "Does Telematics Have a Future in Business?"]

[Text] Will telematics find a privileged field of applications in enterprises? In which way will its applications methods modify computer strategy? What lessons can be learned from the first experiments? These are as many key questions to which the second Dialogues Dataid attempted, on 14 and 15 April, to bring some clues for answers. Chaired by Jacques Tebeka, director general of the Dataid group, this meeting made it possible to establish a conceptual bond between suppliers and users.

The second Dialogues Dataid, which was held on 14 and 15 April in Paris, and which was attended by over 100 participants, opened with a dinner discussion on the topic "From Consumer Videotex to Professional Applications of Telematics: A New Policy of the General Directorate for Telecommunications?" during which Herve Nora, head of DGT's (General Directorate for Telecommunications) telematics department, reviewed the administration's major policy lines, and more specifically, confirmed the availability, after 1 October, of rental-maintenance Minitel terminals at 70 FF per month, and the connection of 1000 videotex access points (PAV) into the Transpac network by the end of 1982.

The latter two factors are certain to encourage the development of professional applications. According to the latest DGT details revealed by Claude Termens, head of the DGT group for professional customers, the number of videotex terminals installed in France at the beginning of 1985 is conservatively estimated at about 600,000 units, including 80,000 in professional or collective settings (table 1).

#### A Potentially Universal System

None of the seminar participants questioned the future of videotex in business. The implantation of such communications systems seems foreordained and responds to the evolution of technology as well as that of needs.

Several businesses have exploited their experiences in this domain: Renault at Velizy; PSA-Peugeot-Citroen, which is installing in England its private videotex system, Vital (Prestel type) to improve communications between sales offices and the

Table 1. Estimated growth of videotex terminals.

	January 1982	January 1983	January 1985
Velizy	3,200	3,500	??
Ille-et-Vilaine	1,400	50,000	120,000
Professional and collective experiences	900	15,000	80,000
Others	--	--	400,000
Estimated total	5,500	70,000	600,000

(ex.: Picardie)

home office; the union of Banques Populaires, which is planning the development of domestic as well as foreign use between Banques Populaires and businesses, and eventually, individuals; and Viniprix, whose experiment for order placement has been in operation for two months.

For these enterprises several features argue in favor of videotex: its ease of installation (a telephone connection is sufficient), a dialog protocol which makes it possible to use it immediately without training, compatibility with existing computer systems thanks to front ends, as well as an implementation cost which is overall lower than that of a conventional system. On the other hand, the need for an interface to ASCII standards and an 80-column display (instead of 40), is often expressed.

#### The Cost of the Terminal Is Not a Determining Factor

The low cost of the videotex terminal, often advanced as an argument by DGT, does not appear to be a determining criterion in professional applications. The estimate of installation and operation costs for a videotex system, communicated by Claude Termens (table 2), confirms this impression.

The minimum fixed costs which must be devoted to the design, operation, and promotion of a service, are out of proportion with the costs involved in the installation and utilization of a terminal, particularly in the case of applications designed for users outside the business.

A first consequence is that a PME (small and medium-size business) will find it difficult to undertake outside services on its own, and will have to call upon outside services in order to distribute the fixed costs.

#### Opportunities for Manufacturers

The computer industry will benefit from the development of telematics. This is the position of current manufacturers.

For Gustave Barth, head of the telecommunications and PTT (Mail, Telegraph, and Telephone) relations service department for IBM France, telematics is no different from remote data processing, and videotex is just another means which may have strategic justifications, but also raises several questions: is the present consumer equipment adequate for business use? What overall savings can business expect from it? Does it not risk creating non-coherent information systems? Will standardization be able to withstand technologic change? What will PTT's exact role be?

Table 2. Estimate of monthly cost per terminal, for operating a videotex system

Station	Consumer use	Professional use
Terminal	--	7 FF
Communication	5 FF	600 FF
Data processing	10 FF	300 FF
Design	10,000 FF	100 FF
Operation	(electronic newspaper case)	(internal service)
Promotion		

Whatever the answers, IBM provides videotex support in these four ways: integration on series 1 and 370 of software developed by SSCI (Computer Information and Assistance Companies) (as for Cap Gemini Sogeti); orientation toward direct support of Minitel terminals on 370 and 3705 machines; support of Videopad; and videotex concentration function for 3750 and 1750 autoswitches.

For CII-HB, represented by Mr Yon, head of the telematics and distributed systems division, and Mr Collas, deputy director of the "public markets" operation, videotex national taskforce, videotex generates new terminals, computer equipment, new applications, and new services, but also constraints of standardization, integration to protect computer investments, and additional equipment.

The selection of the Mini 6 for videotex applications is justified by its modularity, broad range of functions, and adaptability as front end.

"Telematics is an indirect way to force computer specialists to consider system ergonomics!" This comment by one of the participants fairly reflects a certain divergence between conventional data processing and the needs of businesses which use videotex, and which are particularly sensitive to the "communication" aspect of the system.

The Vélizy experience reveals the same situation, since services are more often provided there by commercial agencies than by data processing ones.

For internal business applications, led by message circulation, users tend to favor entrusting practical management to a collegial structure under the executive in charge of the enterprise's information system.

Telematics will always use computer resources, but computer specialists will of necessity have to take into account the needs of users, if they want to play a role in the design of videotex services.

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STUDY RANKS TOP 50 FIRMS IN DOMESTIC DATA PROCESSING

Paris ZERO UN INFORMATIQUE HEBDO in French 3 May 82 p 35

[Article by Jean-Louis Cousin]

[Text] Nothing grows in the shade of large trees, they say. That is not entirely true in the case of the French computer market. The IBM oak of course spreads its branches as broadly as usual, taking up some 35.6 percent of the market by itself. But the CII-HB reed, whose flexibility risks more than ever to be put to the test, has held its ground so far, gathering an appreciable 15 percent.

All in all, during 1981, the top 50 manufactureers of computer equipment on the French market achieved a turnover of the order of 27,350 MFF (to be compared to the figure of 29 billion FF determined by the annual Sfib study; the 01 HEBDO probe is a good coverage of the quasi-totality of the French domestic market), with a growth of 25.3 percent over the preceding year.

As throughout this study, these figures are obtained solely on the domestic market, and therefore exclude exportations.

American Stars

Already significant between the top two, the gap widens with the ones that follow: Thomson (through its three subsidiaries Sems, Cimsa, and DAP) approaches but does not reach the 5 percent mark. In turn, CGE (Transac, CGA, Sintra, EVR, and so on) represents a volume of 3 percent of the total.

If we now look at nationalities, we note that the top five Americans alone have reaped about 45 percent of the French market. They are IBM, Burroughs, CDC, NCR, and DEC, which have achieved a cumulative figure of some 12,430 MFF, showing a growth of 32.6 percent over 1980.

The major five French manufactureers record a much more modest growth of the order of 12 percent. It is true that the exceptionally poor results of Logabax certainly had an influence on this figure. However, progress has been average for CII-HB and poor for Thomson. The top five French companies achieved 24.3 percent of the turnover of the top fifty. On the other hand, smaller French companies have experienced high growth rates, as has been the case for Intertechnique, and even more so for CSEE and R2E.

Turnover classification of the 50 top manufacturers on the domestic French market alone

(A) Rang	(B) Constructeur	1981	1980	81/80 en %	(A) Rang	(B) Constructeur	1981	1980	81/80 en %
1	IBM (1)	9741	7234	+ 35	26	Computervision	153 (*)	92 (*)	+ 66
2	CLH-HB (2)	4100	3568	+ 15	27	R2E	140	72	+ 94
3	Burroughs	865	700	+ 24	28	Mohawk Data Systems	135	112	+ 21
4	ICL	700 (*)	611	+ 15	29	Rhône Poulenc Systèmes	130	117	+ 11
5	Sems	685	636	+ 8	30	Sfena-DSI	130	103	+ 26
6	Control Data	665	533	+ 25	31	Wang (9)	127	81	+ 57
7	NCR	623	545	+ 14	32	Xerox (10)	125 (*)	100 (*)	+ 25
8	Olivetti (3)	620 (*)	370 (*)	+ 68	33	Electronique Serge Dassault	121	111	+ 9
9	Digital Equipment (4)	532	360	+ 48	34	Tektronix	120 (*)	92 (*)	+ 30
10	Transac	484	400	+ 21	35	Kienzle	110	105	+ 5
11	Hewlett-Packard (5)	465 (*)	360 (*)	+ 29	36	Crouzet (11)	102 (*)	80 (*)	27
12	Cimsa	443	424	+ 5	37	Dataproducts	100	90	+ 11
13	Nixdorf	430	305	+ 41	38	Thomson-DAP	95	100	- 5
14	Philips Data Systems	390	335	+ 16	39	Sonotec-Apple (12)	85	36	+ 136
15	Sperry Univac (6)	373	305	+ 22	40	Systems Engineering Labs	84	41	+ 105
16	Logabax	267	339	- 21	40	Benson	84	59	+ 42
17	Memorex	265	220	+ 20	42	Amdahl	70	55	+ 27
18	Data General	220 (*)	-	-	42	Prime	70	47	+ 49
19	CMC	218	182	+ 20	42	Inforex	70 (*)	-	-
20	Intertechnique	214	162	+ 32	45	Data 100	60	57	+ 5
21	Sagem	185	167	+ 11	45	Perkin-Elmer	60 (*)	50	+ 20
22	Texas Instruments	180 (*)	150 (*)	+ 20	45	Procep-Commodore	60	20	+ 200
23	Matra Informatique (7)	175	142	+ 23	45	Centronics	60	47	+ 28
24	Storage Technology (8)	161	60	+ 168	49	MAI	55	34	+ 62
24	CSEE	161	92	+ 75	50	Ruf	54,5	50	+ 9

Key: (A) Rank  
 (B) Manufacturer  
 (1) Turnover from French customers including all products (including autocom and typewriters)  
 (2) Including R2E  
 (3) Including electronic typewriters (40 percent of the total). Except Logabax and Hermes  
 (4) Financial year closed on 30 June  
 (5) Financial year closed on 31 October  
 (6) Financial years closed on March 1982 and March 1981 respectively  
 (7) Except MBC-Alcyane and Inforex  
 (8) Consolidated in 1981 with Documation. The latter achieved a turnover of 20.5 MFF in 1980  
 (9) Financial year closed on 30 June  
 (10) Estimated non-copier activity  
 (11) Except Sfena DSI  
 (12) Turnover achieved by Sonotec on the Apple line alone  
 (\*) Estimates

## Record Growth for Micros

The top five non-French European manufacturers have made significant progress: +61.8 percent with 2250 MFF. However, the figures for this progress are certainly improved by Olivetti's decision to include its electronic typewriters into its turnover of computer equipment.

An examination by categories leads to figures that are indicative of current market trends: for micro specialists, for instance, the recorded average growth is more than 120 percent. This is indeed the boom that had been expected.

In office automation, the progress settles at about 60 percent, which indicates a mushrooming growth here as well.

For large machines (IBM, CII-HB, Burroughs, ICL, and Control Data), the average growth rate has been 27 percent. Minicomputers for their part, have seen an average of about 25 percent.

And finally, let us look at a number of companies immediately behind the fifty, and likely to appear in the classification of major manufacturers in 1982: Datasaab/Ericsson Data Systems (38 MFF in 1980, with an unknown figure for 1981), Norsk Data (40 MMF), IER (39 MFF), General Automation (39 MFF), Plessey (35MFF), Leanord (35 MFF), Siemens Data Systems (35 MFF), and Modcom (30 MFF).

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CIT ALCATEL, CII-HB, OLIVETTI PRESENT INDUSTRIAL STRATEGIES

Paris ZERO UN INFORMATIQUE HEBDO in French 17 May 82 p 8

[Summary by Stephane Ilitch, of presentations given at Afcet/Sicob Office Automation Conference, which ended 13 May 1982]

[Text] Four European manufacturers, IBM, Olivetti, CII-HB, and CIT Alcatel, presented their industrial strategies at an essentially practically oriented conference, which brought the office of the future into a very concrete present, composed of in-situ implementations of available methods of installation and materials.

Four philosophies can be discerned among the various participants. IBM stresses a functional analysis of office work, and formulates work organization models in which office automation and information processing are broadly interpreted. Olivetti insists on evolution from a work station which integrates text processing and data processing, up to linkage with an office system covering the entire company.

CIT Alcatel readily equates office automation and telematics, pointing out that any office system depends on a perfect mastery of communications systems. And finally, a pragmatic CII-HB, which decided to apply all its know-how to its own company, is currently conducting a pilot experiment in a office automation and terminals department.

For IBM, the general picture of the office of the future presents a solid structure, ready to support all the sophisticated features of an individual work station.

The Olivetti strategy appears to be oriented more toward the wish to satisfy immediate needs; each of its presentations (decentralization of banks and of an industrial group in Italy) adopts different configurations based on bunching of the SP 600 individual work station.

CIT Alcatel stands out from the other participants by appearing less concerned with work organization and office reorganization, than with a mastery of internal and outside communications.

Finally, CII-HB also presents its office automation operational cell, based on Questar/T 12-inch screen terminals and on the TTX 80 text processor.

However, the largest obstacle to office automation comes from the incompatibility of the various systems with each other, which delays the decisions to invest in this type of equipment.

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